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(71) Applicant (for all designated States except US): THE RE-SEARCH FOUNDATION OF STATE UNIVERSITY OF NEW YORK [US/US]; P.O. Box 9, Albany, NY 12201-0009 (US).

(72) Inventors; and

- (75) Inventors/Applicants (for US only): STEFANO, George, B. [US/US]; 1 Sleepy Lane, Melville, NY 11747 (US). FIMI-ANI, Caterinea [IT/IT]; Via Ceneda, 39, I-00183 Roma (IT).
- (74) Agent: ELLINGER, Mark, S.; Fish & Richardson P.C., P.A., Suite 3300, 60 South Sixth Street, Minneapolis, MN 55402 (US).

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(54) Title: OPIATE, CANNABINOID, AND ESTROGEN RECEPTORS

### (57) Abstract

The present invention relates generally to mu3 opiate receptors, cannabinoid receptors, and estrogen surface receptors (ESRs). Specifically, the invention provides methods and materials for identifying mu3 opiate receptor agonists and antagonists, cannabinoid receptor agonists and antagonists, and ESR agonists and antagonists. In addition, the invention provides an isolated nucleic acid molecule that encodes a mu3 opioid receptor, a host cell containing an isolated nucleic acid molecule that encodes a mu3 opioid receptor, and an isolated mu3 opioid receptor polypeptide. Further, the invention provides methods and materials for treating cancers, inflammatory conditions, sepsis conditions, viral infections, and cardiovascular diseases.

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